

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method of producing a magnetic recording medium comprising a step of forming successively a nonmagnetic substrate, a metal underlayer and a ferromagnetic metal layer in a multilayer wherein

said ferromagnetic metal layer contains a plurality of ferromagnetic films and a nonmagnetic metal spacer layer formed between said ferromagnetic films, the step of forming said ferromagnetic metal layer is a step of forming alternately a plurality of ferromagnetic films and one or more nonmagnetic metal spacer layer or layers in a multilayer, and comprising

a step of allowing at least the interface of between said nonmagnetic metal spacer layer or layers and said ferromagnetic films to adsorb physically oxygen and/or nitrogen.

2. (Original) The method of producing the magnetic recording medium according to claim 1 wherein said nonmagnetic metal spacer layer or layers is or are formed in such a way that said oxygen and/or nitrogen may be contained in the film of the nonmagnetic metal spacer layer or layers.

3. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein the gas used for forming said nonmagnetic metal spacer layer or layers is a mixed gas obtained by mixing oxygen or nitrogen with Ar or other rare gases.

4. (Original) The method of producing the magnetic recording medium according to claim 3 wherein the partial pressure of oxygen or nitrogen contained in such mixed gas is set at 10^{-7} Torr or above and 10^{-3} Torr or below.

5. (Original) The method of producing the magnetic recording medium according to claim 4 wherein the partial pressure of oxygen or nitrogen contained in such mixed gas is set at 3×10^{-6} Torr or above and 3×10^{-5} Torr or below.

6. (Currently amended) The method of producing the magnetic recording medium according to claim 1 wherein the step of allowing at least the interface of between said nonmagnetic metal spacer layer or layers and said ferromagnetic film to adsorb physically oxygen and or nitrogen

is a step of exposing the surface of said nonmagnetic metal spacer layer or layers to an atmosphere containing oxygen and/or nitrogen.

7. (Original) The method of producing the magnetic recording medium according to claim 6 wherein the exposure of the surface of said nonmagnetic metal spacer layer or layers to oxygen is set at 10 Langmuir or more.

8. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein a metal film containing a kind or more of element or elements chosen from Ru, Ir, Cu and Os for said nonmagnetic metal spacer layer or layers is formed.

9. (Previously presented) The method of producing the magnetic recording medium according to claim 1 wherein the thickness of said nonmagnetic metal spacer layer or layers is set at 0.5 nm or more and 1.0 nm or below.

10-18. (Canceled).

19. (New) A method of producing a magnetic recording medium comprising a step of forming successively a nonmagnetic substrate, a metal underlayer and a ferromagnetic metal layer in a multilayer wherein

said ferromagnetic metal layer contains a plurality of ferromagnetic films and a nonmagnetic metal spacer layer formed between said ferromagnetic films, the step of forming said ferromagnetic metal layer is a step of forming alternately a plurality of ferromagnetic films and one or more nonmagnetic metal spacer layer or layers in a multilayer, and comprising

a step of allowing all interfaces between said nonmagnetic metal spacer layer or layers and said ferromagnetic films to adsorb physically oxygen and/or nitrogen.